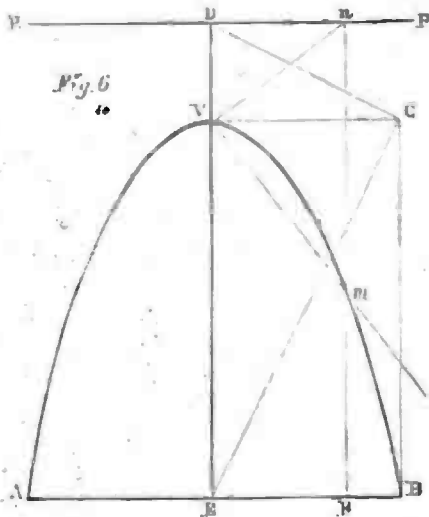


ERCV, and draw the diagonal EC; at C, the extremity of the diagonal EC, erect the perpendicular CD, meeting the axis EV produced in D, then is VD the parameter of the parabola to the axis VE; through the point D, and parallel to the base AB, draw the indefinite right line nP, which in this case will be the directrix of the curve.

Then, if the straight line nF be moved in a direction always parallel to the axis VE, and in such a manner that the extremity n, thereof, may always be in contact with the straight line Pn, and carry along with it the side Vn of the right-angled triangle mVn, of which the right-angle is moveable about the point V; then it follows, that the continual intersection m, of the straight line nF, with Vm, the other side of the triangle, does by this motion generate a conic parabola.

This method, it will be observed, determines



the curve independently of the focal point, and it is only necessary that the parameter should be known for the purpose of fixing the position of the directrix Pn, along which the describing line must be carried; for in no other position will the moveable line intersect the curve, and the other side of the generating triangle in the same point.

If the moveable line nF be carried along parallel to itself, until the points m and F do each coincide with B, the extremity of the base, then will Vm become the hypotenuse of a right-angled triangle, of which the base is EB, and perpendicular VE; and this triangle will manifestly be similar, in that case, to VnD or VCD; hence we have

$$VE \times VC :: VC : VD.$$

But when the point F coincides with B, the semi-base EB is equal to VC, and, by construction, VD is equal to the parameter of the axis; hence it is,

abscissa : ordinate :: ordinate : parameter;

and, by equating the products of the extremes and means, we get

$$\text{parameter} \times \text{abscissa} = \text{ordinate} \times \text{ordinate};$$

which is also the equation to the conic parabola; hence the truth of the construction is manifest. There are various other methods by which the curve may be generated; but since those which have now been exemplified are sufficient for every practical purpose, we shall not insist longer on the subject, having done enough to prepare the practical man for the important applications which are to follow.

FOREIGN ARCHITECTURAL AND COL-LATERAL INTELLIGENCE.

The "Cloaca Maxima" of Rome and the Egg-shaped Sewers of London.—If any thing can prove to us, that the very structure and aspect of ancient and modern times were different, the above two constructions can. In the first instance, we perceive a very small town—old, stern Rome, wherein a king (Tarquinius Priscus) considered it the scope and object of his life—or nearly so, to erect a structure, which, for ages to come, would afford cleanliness, and therefore comfort and salubrity (vitality) to his native city. The thing is done, and done thus, that the ultimate expansion of the capital of the world does not outstrip the first, primordial plan; and the Cloaca maxima of Tarquinius suffices for the Rome of Cæsar and Augustus—even now, 2,400 years afterwards, a monument of admiration for every sensible beholder.—In modern times we manage things differently; we run after all and every sort of private comfort and ease, but whatever belongs to the province of public utility is a matter of chance, if not of corruption and jobbing. The subject of sewers, however, has been, in its main features, so ably managed by other hands in this journal, that it does not behoove us but to make a few comparative observations relative to the Roman work. Calling to our minds what we have seen of the Cloaca maxima, we do not believe that its inner surface (brick) was glazed. There was no necessity for it, at any rate. Every one who has seen Roman (aye, even mediæval) bricks, knows what they are—stone, nay, better than stone, combining hardness with toughness; moreover, the mortar of the same kind, so much so, that nothing but (modern) gunpowder, or the crowbar and pickaxe will dis sever or break this ancient material of building. To dilate on this would be to speak of things unattainable, or nearly so. But one thing has come out of late here, and one certainly not neglected by our Roman masters, viz. that sewers, like any brick and mortar structure, must have time to set, to dry, and to solidify, if they are to be solid. This, as a matter of course, has its physical, if not its chemical reasons. The watery portion of the carbonate of lime has to evaporate before it is capable of entering with the grit and sand, and altogether with the stone or bricks into a firm agglutination, or perhaps (chemical) amalgamation. The Roman king was, therefore, right in building his sewers without the bustle and the astounding harass and traffic of a capital of the world; and, consequently, there was no over-hurrying required, and the thing could go on in its natural and timely progress. But our sewers can not remain accessible to the influence of the air—the thing is impossible. They can neither dry, nor settle, but must be filled up, there and then. This anomaly has been clearly exposed, of late; but we fear that no remedy has been hitherto proposed, which can or would be resorted to, as there is no spare time at hand, either in Fleet-street, the Strand, &c.

Curious Appliances of the Cathedral of Orvieto.—A curious solemnity is yearly celebrated in the interior of this beautiful cathedral, in the Roman states, viz. the letting off of a huge set of fireworks. To crown this inconvenience, there are some exceedingly interesting old fresco pictures in the choir, by an unknown painter of Siena, as well as those, more known, of Signorelli, which, being acted upon in this vandalian manner for centuries past, have been coated with soot and dirt. Fortunately, two German painters, Messrs. Baltz and Pinnenschmidt, have of late applied themselves to cleanse these beautiful works; and thus it may be presumed, that this splendid old structure will no more be injured by the explosion of crackers and squibs.

The Paving of the City of Vienna.—The corporation of that metropolis have arrived at that persuasion, that most solid works are the cheapest. An exceedingly costly mode of paving has therefore been carried into effect, which, however, is calculated to last at least a hundred years. It consists of solid cubes of granite, about a foot square, all whose six sides are grooved, longitudinally and transversally, for preventing the slipping of horses, &c., thus ready for use on every side. It is calculated that as any of these get either worn out on one side, or even broken at a corner, it will be

heaved out, and turned on the other side, and as the granite used at Vienna (similar to that mostly used here) is very hard, the experiment is sure to succeed. The expense, however, to pave in that manner, even the small city of Vienna, amounts to more than a million of florins (100,000*l.*). The only thing yet indispensable is the strong ramming in of these cubes, as it is well known that if merely one of the paving stones of a certain surface gets shakey, the whole connection is broken, and the disease will spread to a large extent. As, however, Vienna is unlike London, not so astoundingly undermined by a vast number of sewers, and water and gas pipes, the ramming in can be done with the necessary force and solidity.

Reorganization of the Royal Society of Belgium.—A recent decree of the king completely re-constructs the above learned body, which, the fine arts being now added to it, will henceforth take the appellation of "Royal Academy of Sciences, Literature, and the Fine Arts of Belgium." The Society will form three classes, viz. Physical, Mathematical, and Natural Science; Class of Literature, and Moral and Political Science; and Class of Fine Arts. Messrs. Roelands and Suys are the few members of architecture; Geefs and Simonis of sculpture, &c. (Norus ab integro nascitur rerum ordo.)

Paris Guildhall.—Twelve statues representing Art, Industry, Science, and Commerce, have been of late placed on the balustrade at the top of the Hôtel de Ville, facing the Rue de la Tréfilerie; and three of the façades of this building are now ornamented in that way. When the Paris Guildhall is completed, it will contain about 500 statues, busts, and allegoric medallions.

An Art "voice" from Dresden.—Artists now complain of the want of encouragement; we ought rather to do so, of so much wrongly applied—because, when ever was it before, that cartoons, never to be executed, or oil-paintings, without a spark of thought and feeling, exhibiting, moreover, an utter lack of technical knowledge, have been paid for so highly as they are now? It could be therefore proved to a nicety, that beside the narrow-mindedness and the mere trade feelings of most German artists—it is especially the surfeit of indiscriminate encouragement, and the state of the academies, which drag down art, and make it proceed within the most narrow and commonplace limits. Amongst the Dresden painters, there is but Schweid who can be said to be possessed of that astounding rapidity of technician, by which those great stars of mediæval Italy were so conspicuous. It is useless to dream of, or pant after geniality, as long as the merest A B C of composition has not been attained.—Kunstblatt.

A Pentonville Model Prison at Berlin.—This huge building is now approaching its completion, surrounded by high walls and turrets. There will be room for 520 prisoners, and a complete, very complicated, separation has been effected; but the building has turned out a very expensive one, so much so that the mere interest of the capital expended will bear a proportion of 20 dollars (4*l.* 10*s.*) for each prisoner.

Art-Museums in the German University Towns.—According to the programme of the Bavarian University of Erlangen, the Art museum is open twice a week, one hour each time. The libraries, also, are restricted within the same narrow limits—but then students and others may take books home.

Erection of a New National Gallery at Dresden.—The huge, albeit unseemly building, the Picture Gallery of Dresden, endeared still to any sensible person, as the, for so many years, shrine of such sacred objects, as the Madonna del Sisto of Raphael, and other incomparable works, is now likely to be replaced by a building more in accordance with the demands of our age. It was his Majesty of Saxony's Government which, on its own free will, brought the necessity of this improved building before the Chambers, which, no doubt, will assent to it cheerfully. The costs are estimated at 350,000 thalers, about 37,000*l.* English coin, but equivalent to 70,000*l.* in Dresden. As that kingdom has a surplus of revenue, 200,000 dollars will be taken from that source, and the remainder placed on the budget of next year.

Sliding-scale in the Payment of Public

* The reader should connect the points P and B by drawing a straight line in his copy, such being omitted in the figure.